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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/365,863	08/03/1999	DAISUKE HATA	0557-4744-2	2377
22850	7590	10/24/2003	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TILLERY, RASHAWN N	
			ART UNIT	PAPER NUMBER

2612

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/365,863

Applicant(s)

HATA, DAISUKE

Examiner

Rashawn N Tillery

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,5,6,9 and 10 is/are allowed.
- 6) ☒ Claim(s) 3, 4, 7, 8, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed July 30, 2003 regarding the amendments to claims 3, 7 and 11 have been fully considered but they are not persuasive.

The examiner notes that Applicant is not claiming "changing an amount of shift of a focus lens system based on a set number of recording pixels" in claims 3, 7 and 11. Applicant merely claims that the number of times the auto-focus operations are performed is changed according to the number of recording pixels; and that the amount of shift of the focus lens is decreased in each subsequent auto-focus operation. The latter is evident in Iijima's hill climbing method as discussed in the previous Office Action.

The examiner acknowledges, as is evident in the Allowable Subject Matter, that the prior art references do not teach that the amount of shift of the focus lens system is changed according to a number of recording pixels set by the recording pixel number setting means.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4, 7, 8, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al (US6005612) in view of Iijima et al (US6512549).

Kikuchi teaches a video camera operable in two modes- normal and quadruplication. In the normal mode, the charges are read-out every one field (see figure 4); in the quadruplication mode, the charges are read-out every quarter field (see figure 6; also see col. 16, lines 40-66). In each mode, the image data is processed in accordance with the chosen mode for subsequent display. Specifically, regarding focus adjustment, as shown in figures 12A and 12B, the focusing area for the normal mode is formed at the center of the monitor; and the focusing area for the quadruplication mode is formed at the center of all four images; thus, the number of times focusing is performed in the normal mode is once and the number of times focusing is performed in the quadruplication mode is four (see figure 36; also see col. 17 lines 13-57). Once the focusing area is determined, and the focus evaluated value outputted, the microcomputer controls the focus motor accordingly.

The examiner acknowledges the differences in the specification (specifically figure 11 where the amount of shift (pulses) is based on the number of pixels) and the

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prior art; however, Applicant's claim language is currently written broadly where a broad interpretation of the prior art reference can be read on it. For instance, Applicant claims that "the number of times the auto-focus operations are performed is changed according to the number of recording pixels set [.]". In the specification and in claim 1, the "amount of shift" of the focus lens is changed in accordance with the number of pixels.

Regarding claims 3, 7 and 11, Kikuchi discloses, in figure 1, an auto-focus apparatus comprising:

an image pickup means (12) for converting light from an object through a focus lens system (inherent feature) to electric signals and outputting the signals as image data;

an A/D converting means (30a, 30b; see col. 6, line 67) for A/D-converting the image data to obtain digital image signals;

an AF evaluating means (42) for outputting an AF evaluated value obtained by integrating high-frequency components of brightness data for the digital image data (see col. 9, lines 14-44);

a sampling means (50) for sampling the AF evaluated value obtained by the AF evaluating means while driving a position of the focus lens system (see col. 11, line 41 to col. 12, line 21);

a recording pixel number setting means (28; if the switch is turned ON, the quadruplication mode is chosen, otherwise the system operates in accordance with the normal mode) for setting a number of recording pixels of the image pickup means for recording an image; and

a focus driving means (50) for determining a focus according to a result of sampling of the AF evaluated value by the sampling means and driving the focus lens system to the focus position.

Kikuchi does not expressly disclose that the step size is capable of changing so that the first step is largest.

Iijima teaches an automatic focusing apparatus wherein during a first auto-focus operation, amount of shift of the focus lens system for sampling the AF evaluated value is set to a maximum (see figure 8B) and a substantial focus position is calculated; and during second auto-focus operation and thereafter, amount of shift of the focus lens system for sampling the AF evaluated value is decreased and set to a position closer to the substantial focus position and a final focus position is obtained (see col. 12 line 34 to col. 13, line 44). It would have been obvious to one of ordinary skill in the art at the time the invention was made for Kikuchi to implement Iijima's teachings of focus control. One would have been motivated to do so in an effort to attain adequate exposure.

In addition, Kikuchi discloses the number of times the auto-focus operations performed is changed according to the number of recording pixels set by the recording pixel number setting means and each auto-focus operation subsequent to the auto-focus operation has a decreased amount of shift of the focus lens system since in the quadruplication mode, focusing is performed four times (once for each window) and in the normal mode focusing is performed only once.

Regarding claims 4, 8 and 12, Kikuchi discloses an AF locking means for holding a focus position after the auto-focus operation is executed (examiner notes that

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Kikushi's focus position is maintained as a default as long as the focus area is the same), and

a disabling means for disabling (28), under operation of the AF locking means, under operation of the AF locking means, change of a number of recording pixels in the image pickup means for recording an image by the recording pixels number setting means (examiner notes that Kikushi's focus position is maintained until the quadruplication mode is selected).

Allowable Subject Matter

Claims 1, 2, 5, 6, 9 and 10 are allowed.

The prior art does not teach or fairly suggest an auto-focus apparatus comprising an image pickup means, an A/D converter, an AF evaluating means, a sampling means, a recording means and a focus driving means, wherein

the amount of shift of the focus lens system is changed according to a number of recording pixels set by the recording pixel number setting means.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashawn N Tillery whose telephone number is 703-305-0627. The examiner can normally be reached on 9AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

RNT
October 20, 2003


NGOC-YEN VU
PRIMARY EXAMINER